



**You
Can
Do It All...**

ATC®
FLIGHT SIMULATOR CO.
1650 19TH STREET, SANTA MONICA, CA 90404

The ATC® 212H IFR/VFR Helicopter Flight Simulator

Represents the most innovative new concept in total helicopter flight training. Combining two already proven concepts, the ATC 212H provides the flight training operator with maximum cost effective IFR/VFR helicopter training with absolutely no risk to the training aircraft.

ATC has combined its famous fully FAA approved helicopter instrument procedures trainer with a revolutionary, patented, FAA approved fully functioning helicopter model. This model helicopter (pictured on

opposite page) provides the beginning helicopter student, the chance to learn new and difficult maneuvers in a totally risk free environment.

The ATC 212H provides fully functioning dual controls, just like the real aircraft, so the instructor can demonstrate and then follow through all flight maneuvers with the student.

The ATC 212H IFR/VFR helicopter flight simulator provides a truly cost effective answer to the high cost of helicopter pilot training and proficiency.



ATC® 212H Model Helicopter



The actual flying helicopter model faithfully responds to every pilot input via a fully functioning main rotor and tail rotor. The aerodynamic capabilities of the model enable the training pilot to practice hovering flight, autorotations, translational lift and many other difficult maneuvers that impart excessive wear on the actual helicopter.

The model helicopter is attached to a fully patented gimbaling device which in turn is attached to a training arm. This arm permits the helicopter to fly freely within a twenty foot circle and up to an altitude of 5 feet. The training arm limits the movement of the helicopter to keep it from being damaged or crashed during the student's initial attempts at hovering. The instructor can take control of the model helicopter at any time, either to get it back under control or to demonstrate a flight maneuver. A student can go through a complete flight training session, and never leave the ground.

The ATC 212H is not intended to fully replace a real

helicopter for primary flight training, but rather to provide a practical and cost-effective alternative for teaching students the basic motor skills and coordination required to be able to successfully fly a real helicopter.

To date the FAA has granted a waiver permitting the ATC 212H to be used for 5 hours of the required flight time when a student is enrolled in the private or commercial helicopter pilot course. Not only is the FAA excited but so are the operators using the ATC 212H. The average school provides a ten hour course utilizing the ATC 212H in which the student practices all the basic helicopter flight maneuvers. After this ten hour course many students are capable of soloing the actual helicopter in less than one hour (with instructor on board of course).

The ATC 212H could be the profit maker you've been looking for. Call ATC today for a free demonstration of the ATC 212H.

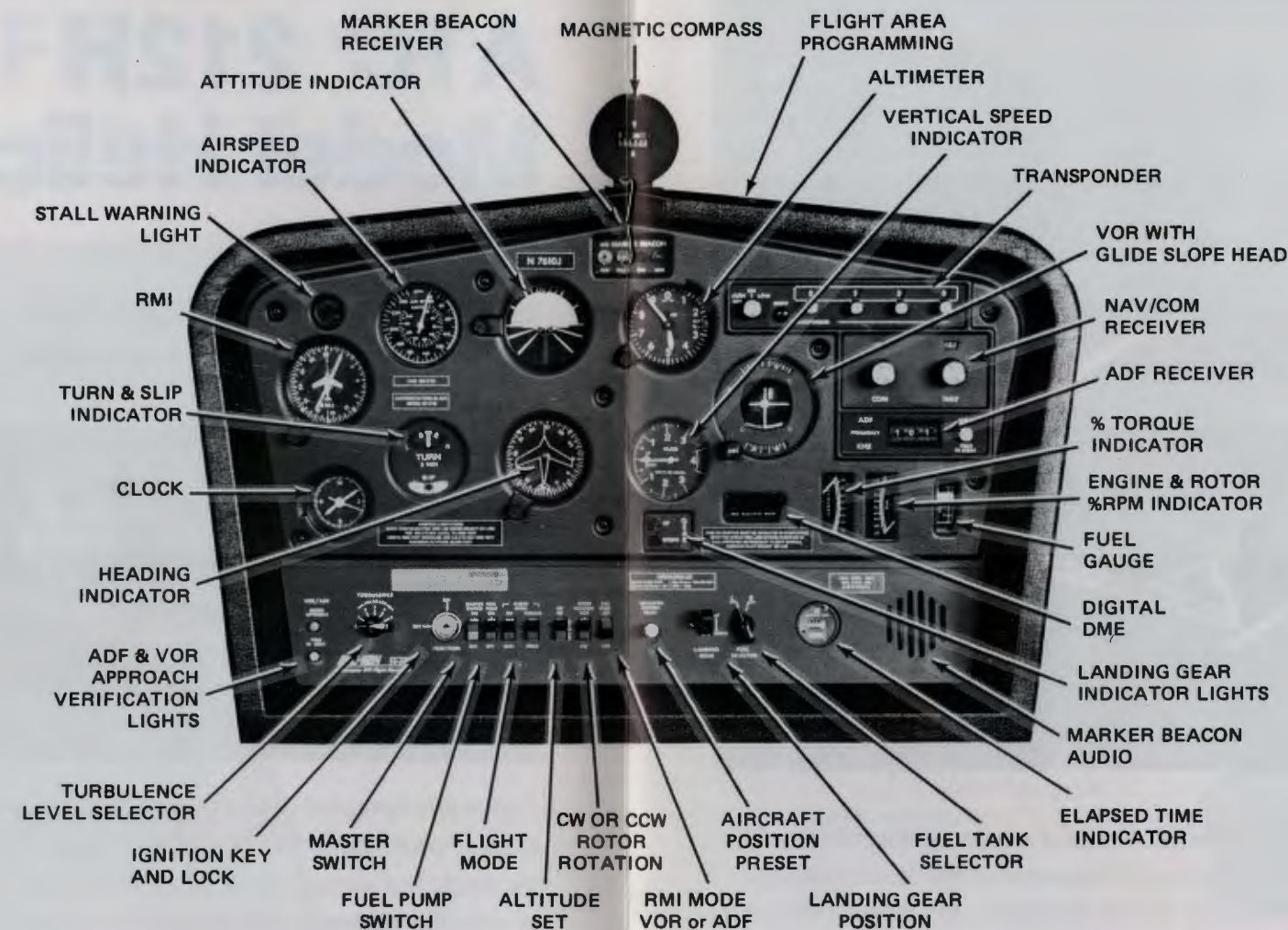
Important Instrument Procedure Performance Features

■ Realistic torque properties are achieved for CCW rotor rotation, which includes retreating blade stall with pitch up and left roll. Built-in flexibility enables the simulator pilot to have European-type CW characteristics, with opposite torque and retreating blade stall - at the touch of a switch.

■ Realistic helicopter control sensitivity and instrument responses are provided throughout the ATC-212H. Its instrument displays respond faithfully to the pilot's movements of the cyclic, collective, and anti-torque pedals. Relationships between torque, RPM, flight instruments and the flight controls are correlated by the sophisticated computer system in the ATC-212H. The cyclic and collective controls are dynamically balanced and can be set to obtain the desired degree of control stabilization.

■ Flight parameters in the ATC-212H are for operations in the coordinated velocity range of 40 to 160 knots. Typically, 62% engine torque in straight level flight results in a cruise speed of 90 knots. A 10% reduction in engine torque will cause a descent rate of approximately 500 FPM. This in turn requires anti-torque pedal correction. A 10% increase in engine torque results in a 500 FPM climb, demanding the opposite anti-torque pedal correction.

True-To-Flight Instrumentation



Navigation instrument group:

- VOR/glide slope head
- Digital DME
- RMI switchable to ADF or VOR operations

Radio instrument group:

- COMM, NAV and ADF receivers
- Marker beacon receiver with beacon audio output and 4096 code transponder
- 225 ADF stations, and six VOR-TACS, and ILS frequencies
- Push to talk button on cyclic

Flight instrument group:

- Attitude and heading indicators
- Altimeter and airspeed indicators

- Vertical speed and turn-and-slip indicators
- Magnetic compass
- Clock with sweep second hand

Engine instrument group:

- % torque and engine/rotor % RPM indicators
- Engine-out horn and warning light
- Fuel tank selector and fuel gauge

Additional features:

- Elapsed time indicator
- Landing gear position selector and indicator lights
- Instantaneous helicopter positioning
- RMI (VOR or ADF) mode select
- Rotor CW or CCW rotation select

- Altitude set capability
- Flight mode switch
- Fuel pump switch
- Master switch
- Ignition key lock
- Turbulence level selector
- ADF/VOR, LOC, LOC BC approach verification indicators

Wind controls (Fig. 1):

- Mounted between pilot seats for easy access
- Wind direction can be set in 30° increments with velocity continuously adjustable from 0 to 50 knots

Helicopter model controls (Fig. 1):

- Mounted between pilot seats providing easy access to both instructor and student

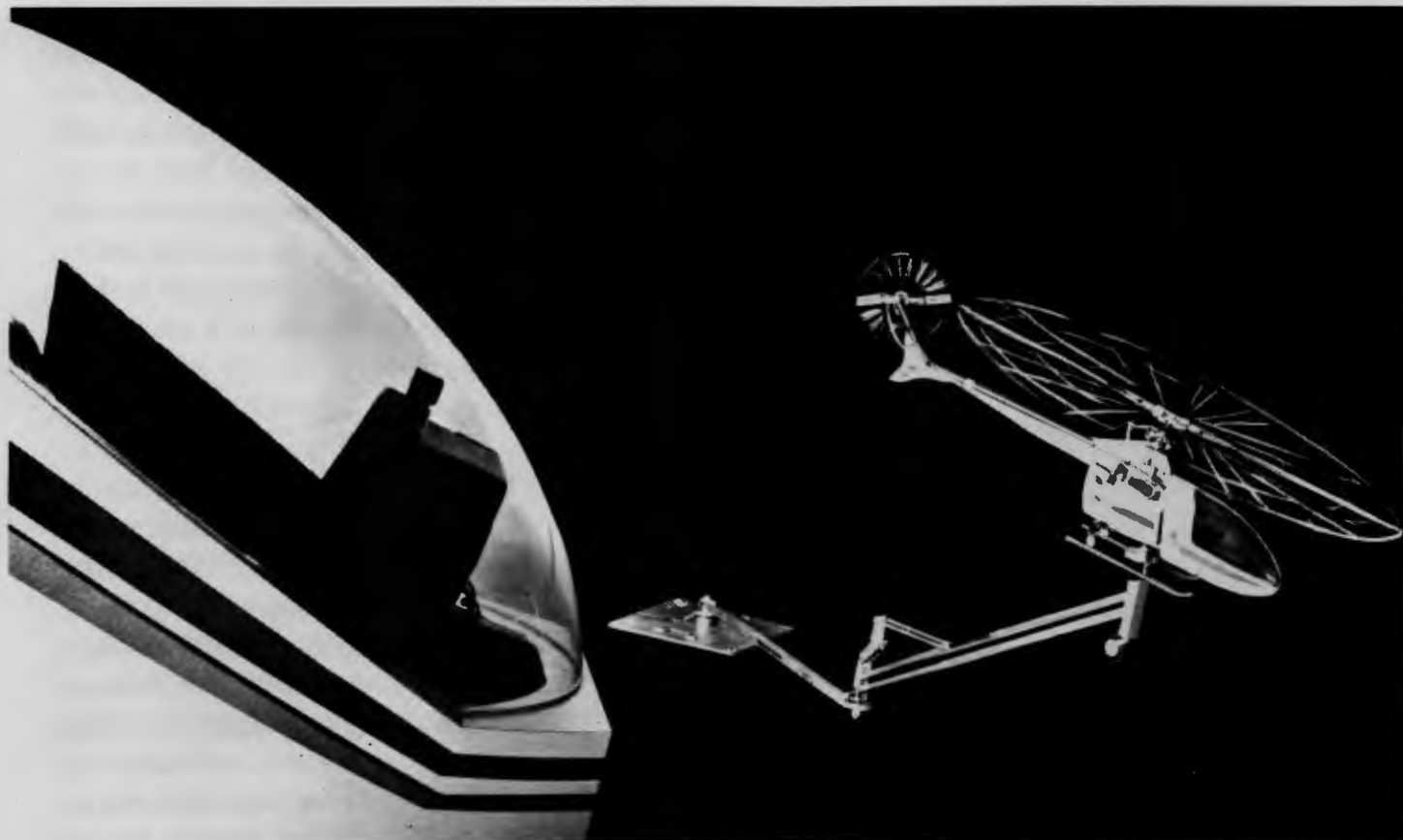
■ Proper anti-torque pedal application is required throughout all simulator maneuvers to maintain balanced flight. To realistically reinforce the importance of maintaining constant torque, a smooth and steady decrease of 5% torque per 1000 feet of altitude increase requires the pilot to adjust collective to hold torque constant as a function of altitude.

■ Engine power loss is simulated by either running out of fuel or switching fuel tanks without turning on the fuel pump. When this happens, engine torque and RPM decrease rapidly. Engine failure requires emergency operational procedures to enter and maintain constant rotor RPM. The pilot then adjusts the aircraft attitude to obtain a 70 knot autorotation glide speed, resulting in a descent of approximately 1400 FPM.



FIGURE 1.

ATC[®] Patented Training



The New ATC[®] 212H IFR/VFR Helicopter Flight Simulator incorporates a fully FAA approved, patented model helicopter coupled to a 10 foot training arm. The helicopter is mounted in such a way as to permit full rotation about all its axes. All normal and most emergency maneuvers can be accomplished within the normal operating environment which is a 28 foot diameter circle and up to an altitude of 5 feet.

The training arm permits full normal and emergency maneuver training without any damage to the helicopter. The prototype trainer has operated successfully for over 13 months with a maintenance cost of approximately \$87.00. When considered with the actual helicopter expenses incurred in a training environment the ATC 212H proves itself a winner!

The FAA has approved the ATC 212H to be used for 5 hours of the required time necessary for either a private or commercial pilot license. The ATC 212H also may be used for the maximum instrument ground trainer time as stated in F.A.R. parts 61 and 141.

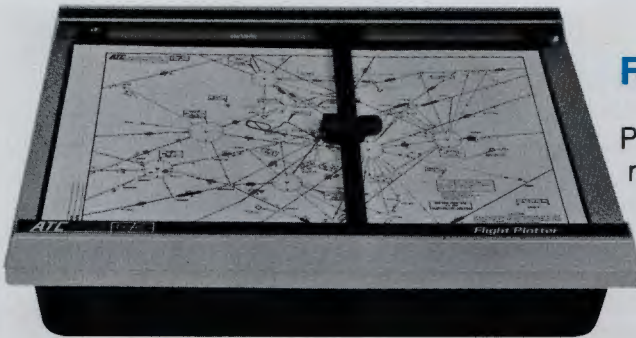
Through the flight control sensitivity mode selector,

located between the pilot's seats, adjustment can be made to the control response of the model helicopter. For instance, on low sensitivity, the model helicopter is easier to fly because it takes more cyclic and pedal movement to cause the model helicopter to change direction or attitude. On high sensitivity, the model helicopter will respond very quickly to even the slightest pressure exerted on the flight controls.

By having this varying control sensitivity at his command, the instructor can help even a slow student master all the difficult helicopter maneuvers. As the student gets more proficient on certain maneuvers using low sensitivity, the instructor can gradually increase flight control sensitivity, until the student can handle even the most difficult maneuvers in the high sensitivity mode.

The flight control sensitivity mode selector is also practical for having the model helicopter perform like different types of real world helicopters including piston or turbine engine.

Accessories:



Flight Plotter

Provides a graphic visual record of flying enroute and approach flights.

Monitor I Communications System

For instructor/student voice communications and use with ATC's prerecorded instruction tapes. One tape deck plays the Flight Assignment while the other is a cockpit voice recorder for post-flight review.



Headsets/Boom Mikes

Comfortable, adjustable, aviation-quality. Used with Monitor I Communication System.



ASK ATC TO PROVIDE THE
NAVIGATIONAL AREA IN
WHICH YOUR PILOTS FLY,
INCLUDING THOSE FOR
OFFSHORE OPERATIONS.